

What we Claim:

1. A multiwell test apparatus comprising a multiwell filter plate and a first feeding plate and a second receiver plate for supporting said multiwell filter plate,  
said multiwell filter plate having a multiplicity of first wells extending from a plate, each of said wells comprising (a) a hollow member having two openings and extending from said plate and (b) a permeable barrier secured about said lower opening,  
at least a first access hole for accessing a liquid in said first feeding plate  
and two posts formed on the undersurface of the filter plate which fit into holes on an upper surface of said first feeding plate and second receiver plate,  
said first feeding plate having one or more wells to accommodate said first wells of the filter plate,  
said second receiver plate having a multiplicity of wells corresponding in number and position to the number of first wells of the filter plate,  
said posts of said filter plate and said holes of said first feeding plate and second receiver plate being shaped to prevent contact of said first wells of said filter plate and said one or more wells of said first feeding plate and second receiver plate when said posts are fully positioned within said holes and to permit controlled lateral movements of said multiwell filter plate to permit contact of said first wells and said one or more wells of said first feeding plate and second receiver plate when said posts are partially removed from said holes.
2. The multiwell test apparatus of claim 1 wherein said posts have a beveled surface at least along the lowermost portions.
3. The multiwell test apparatus of claim 1 wherein one of said holes has a three-sided perimeter and a second of said holes is in the shape selected from the group consisting of a slot, an oval, or rectangle.
4. The multiwell test apparatus of claim 1 wherein one of said holes has a three-sided perimeter and a second of said holes is shaped as a slot.
5. The multiwell apparatus of claim 1 having more than two posts and more than two holes.
6. The multiwell test apparatus of claim 1 wherein the filter plate has a multiplicity of second access holes through said filter plate, each of said second access holes being

equal in number and positioned adjacent each of said first wells.

7. The multiwell test apparatus of claim 1 wherein the permeable barrier is selected from the group consisting of a membrane, a glass mat, a glass fabric, a woven plastic sheet and a non-woven plastic sheet.

8. The multiwell test apparatus of claim 1 wherein the multiplicity of wells of the second receiver plate correspond in number and position to the number of first wells of the filter plate and wherein said wells of the second receiver plate each are sized to accommodate one of said first wells.

9. The multiwell test apparatus of claim 1 wherein the first feeding plate is selected from the group consisting of a single well plate and a multiwell plate wherein the wells in the multiwell plate correspond in number and position to the number of first wells of the filter plate.

10. The multiwell test apparatus of claim 1 wherein the first feeding plate has a multiplicity of wells corresponding in number and position to the number of first wells of the filter plate and wherein said wells of the first feeding plate each are sized to accommodate one of said first wells.

11. The multiwell test apparatus of claim 1 further comprising each of said wells of said filter plate have a shelf extending inwardly from a wall of the hollow member.

12. The multiwell test apparatus of claim 1 further comprising each of said wells of said filter plate have a shelf extending inwardly from a wall of the hollow member and wherein said shelf is formed by a recess in said wall.

13. The multiwell test apparatus of claim 1 wherein the filter plate has a plurality of legs extending from a surface of said plate from which said wells extend and at a distance longer than the length of said hollow member of said wells.

14. The multiwell test apparatus of claim 1 wherein said single well feeding plate having an inclined support surface having a drainage area from which liquid can be removed and an introduction area into which liquid can be supplied,

said inclined support surface being inclined in a configuration to effect drainage of liquid from said introduction area to said drainage area,

and walls surrounding said inclined surface to enclose said inclined surface.

15. The multiwell test apparatus of claim 1 wherein the single well feeding plate

has an inclined support surface and said inclined support surface comprises a plurality of support surface subsections each inclined from said walls to a drainage path connected to said support surface subsections.

16. The multiwell test apparatus of claim 1 wherein the first feeding plate is a single well feeding plate and includes a multiplicity of protrusions extending from said support surface in a direction substantially the same as a direction said walls extend from said support surface, said protrusions having a length which permits said walls to support said multiwell filter plate and to permit contact of said protrusions with each membrane of a well of said filter plate when said filter plate is removed from support by said first feeding plate.

17. The multiwell test apparatus of claim 16 wherein said protrusions are selected from the group consisting of posts, pyramids, rectangles, dimples and cones.

18. The multiwell test apparatus of claim 1 further comprising said filter plate has a multiplicity of second access holes through said filter plate, each of said second access holes being equal in number and positioned adjacent each of said first wells, said second receiver plate has a plurality of non-circular wells having a primary volume into which a membrane of one of said wells of said filter plate extends and a secondary volume capable of receiving a liquid handling device extending through one of said second access holes of said filter plate and said liquid handling device is selected from the group consisting of a syringe, a cannula and a pipette.

19. The multiwell test apparatus of claim 1 wherein said first feeding plate is a single well plate and multiwell filter plate has the first access hole for introducing a liquid into said first feeding plate and further comprising a second access hole in the filter plate for recovering liquid from said first feeding plate.

20. The multiwell test apparatus of claim 1 wherein the single well feeding plate contains one or more baffles.

21. The multiwell test apparatus of claim 1 wherein the single well feeding plate contains one or more baffles and the baffles have a shape selected from the group consisting of wavy elements, curvilinear elements, straight elements and crossed elements.

22. The multiwell test apparatus of claim 1 wherein the single well feeding plate contains two or more baffles.

23. The multiwell test apparatus of claim 1 further comprising a lid for the filter plate.